

Model: Model S

Vehicle System: 45 - Noise, Vibration & Harshness

Region: All

Tech Note: A-Pillar Wind Noise Diagnostic Guide

Tech Notes are announcements that help to communicate and track new information about Tesla Service concerns. Such concerns may or may not be VIN specific. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla Motors assumes no liability for injury or property damage due to a failure to properly follow these instructions or for repairs attempted by unqualified individuals.

This Service Bulletin supersedes SB-14-45-002, dated 14-May-14. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Some customers might complain about wind noise that seems to come from one or both A-Pillars. Wind noise issues can be difficult to solve, because air can move in unexpected ways that might lead technicians to misidentify the source of the noise. The amount of wind noise might vary between vehicles, and early vehicles might be more susceptible than later vehicles.

Use this document to help diagnose and fix A-Pillar wind noise. Not all fixes are applicable to all vehicles.

Gap Between Primary Body Seal and Brightwork

Desired condition: The gap between the primary body seal and the brightwork is padded with foam tape (Figure 1).

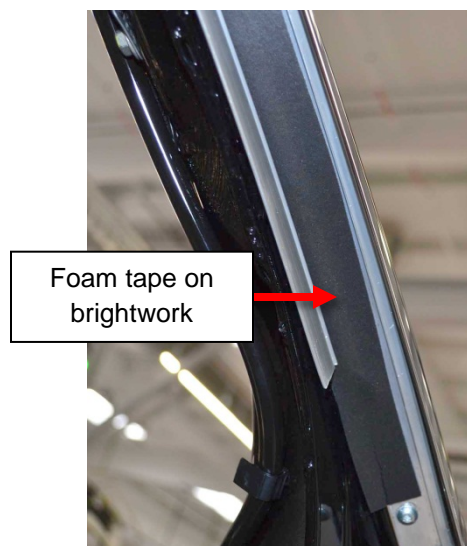


Figure 1

Inspection/Correction: Determine whether SB-13-12-005, “A-Pillar Wind Noise” is applicable to the vehicle. If so, perform the bulletin.

Moving Glass and Fixed Quarter Glass Not Flush

Desired condition: The fixed glass and sliding glass are flush within 1 mm (Figure 2).

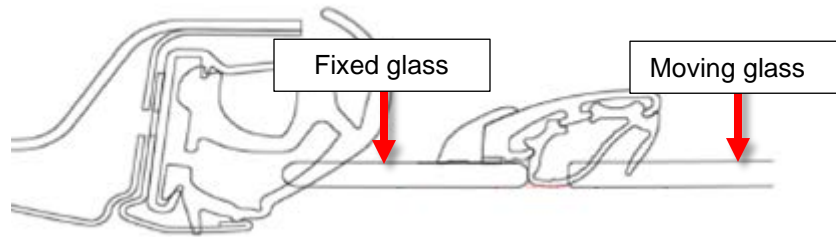


Figure 2 (View from above door)

Inspection/Correction: Measure the flushness of the fixed and moving glass, as close to the seal as possible. If the fixed glass is underflush to the moving glass, pull outward carefully but firmly on the fixed glass (Figure 3). This bends the inner door panel and moves the fixed glass outward.



Figure 3

⚠ CAUTION: To prevent water leaks, the height difference between the highest point on the brightwork and the surface of the fixed glass must be 7.5 mm or less (Figure 4).

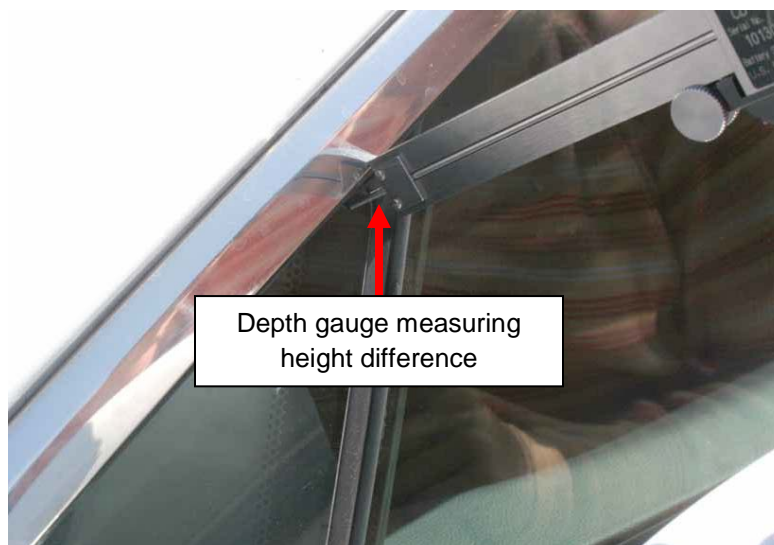


Figure 4

Gap Between Fixed and Moving Glass

Desired condition: The gap between the fixed and moving glass is 8 mm +/-1 mm (Figures 5 and 6).

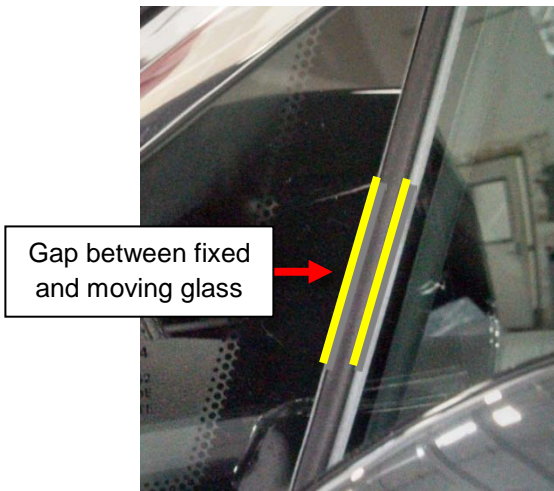


Figure 5



Figure 6

Inspection/Correction: Adjust the moving glass (refer to Service Manual procedure 11500100). Ensure that the moving glass is not adjusted too far forward by putting a stiff plastic card, such as a credit card, between the rear edge of the moving glass and the B-Pillar. The card should remain in place without sliding down or falling out.

⚠ CAUTION: The maximum allowable distance between the rear edge of the moving glass and the B-Pillar applique is 12 mm.

Exterior Mirror NVH Foam Not Present

Desired condition: The diamond-shaped area in front of the fixed glass is padded with foam that is flush with the glass.

Inspection/Correction:

1. From inside the vehicle, inspect the diamond-shaped area in front of the fixed glass. If NVH foam is present in this area, and the foam is flush with the inboard edge of the glass, skip to the next section.
2. Affix the NVH foam (LH: 1022111-00-A, RH: 1022112-00-A) to the area in front of the fixed glass. If the foam is not flush with the inboard edge of the glass (Figure 7), repeat this step and affix the new foam on top of the first. Ensure that the foam fits the area as closely as possible (Figure 8).



✘ Incorrect
Figure 7



✔ Correct
Figure 8

Inner and Outer Belt Seals Misaligned

Desired condition: The inner belt seal is flush with the seal on the division bar between the fixed and moving glass (Figure 9).

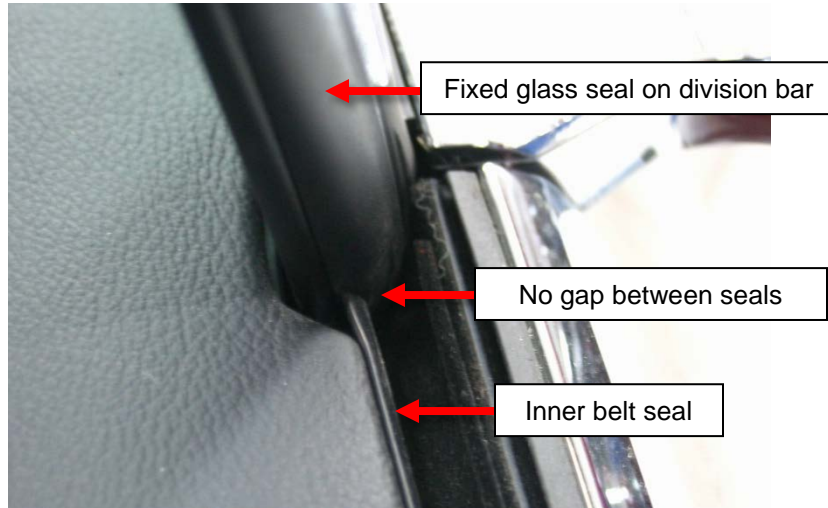


Figure 9

Inspection/Correction:

1. Move the inner belt seal until it is touching the division bar between the sliding and fixed glass (Refer to Service Manual procedure 11704202 to move the inner belt seal).
2. Pull up on the door brightwork and move it forward until there is a 1 mm gap between the door brightwork and the mirror brightwork (Figure 10). Push down on the brightwork to secure it.

NOTE: Moving the outer belt seal forward might create a gap between the front and rear door brightwork.

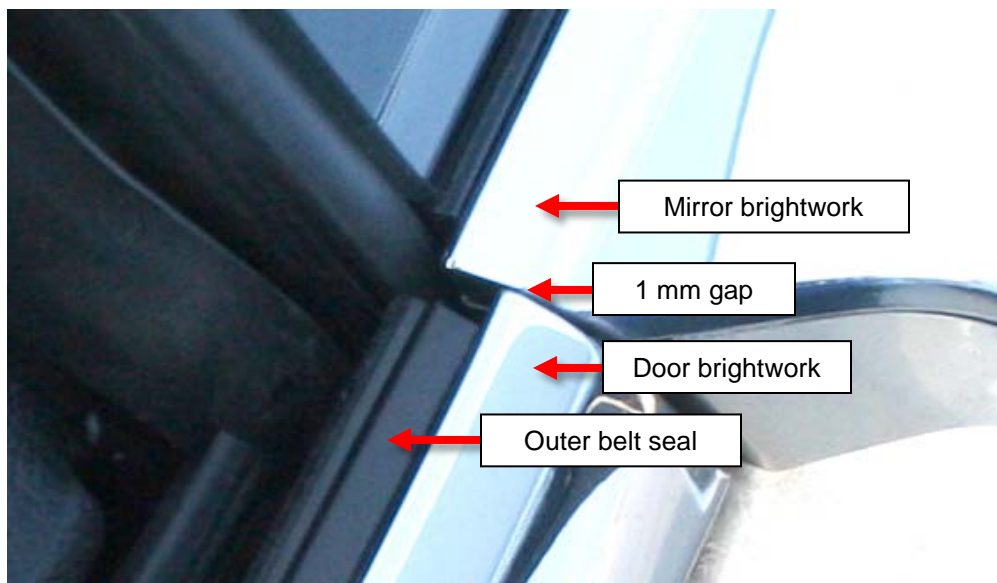


Figure 10

Seal Between Fixed and Moving Glass Not Secure

NOTE: Permatex Super Glue is available from the Tesla Chemicals website (Part Number: 1031098-00-A).

Desired condition: The seal on the division bar is secured to the fixed glass.

Inspection/Correction:

1. From inside the vehicle, inspect the seal. If there is a loose flap (Figure 11), use super glue (Figure 12) to secure it to the fixed glass.

⚠ CAUTION: Do not stain the glass.



Figure 11

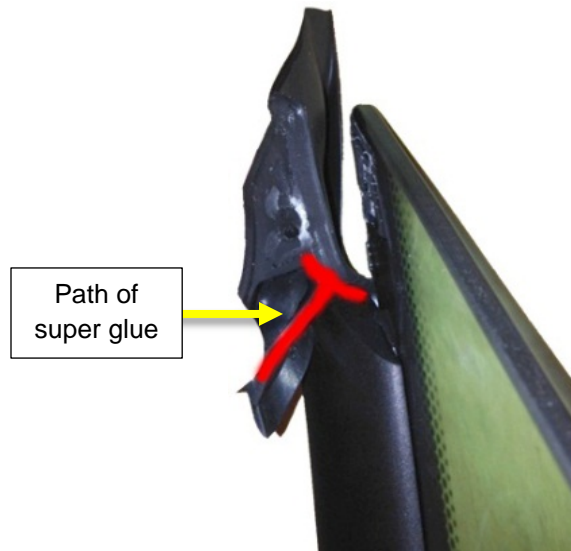


Figure 12

2. From outside the vehicle, inspect the seal. If it can easily be separated from the top of the fixed glass (Figure 13), use super glue on the seal to secure it to the glass.



Figure 13

Inadequate Stuffer at Front of Primary Seal

NOTE: Permatex Super Glue is available from the Tesla Chemicals website (Part Number: 1031098-00-A).

Desired condition: The stuffer at the front of the primary body seal does not yield easily under pressure (Figure 14).

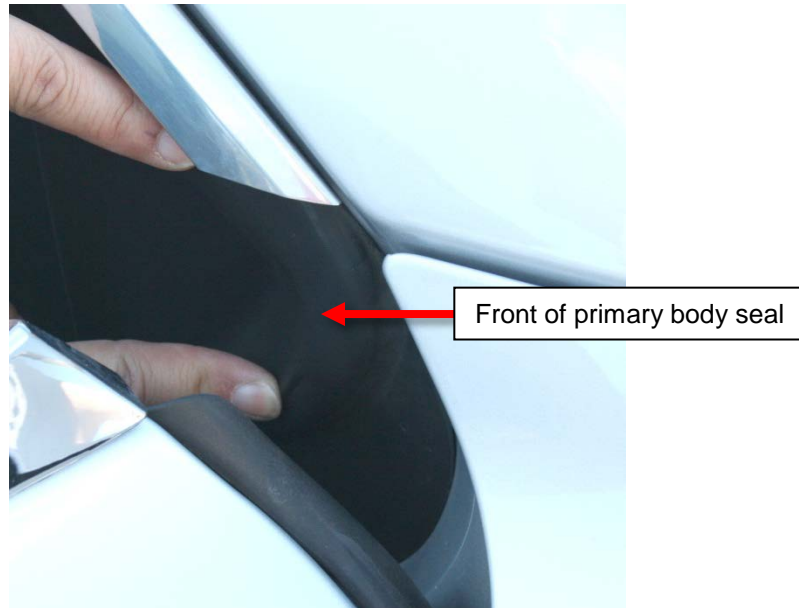


Figure 14

Inspection/Correction:

1. Cut a 50 mm length of rubber hose (1028376-00-A).
2. Carefully peel back the front of the primary body seal.

3. Add the rubber hose behind the stuffer (Figure 15).

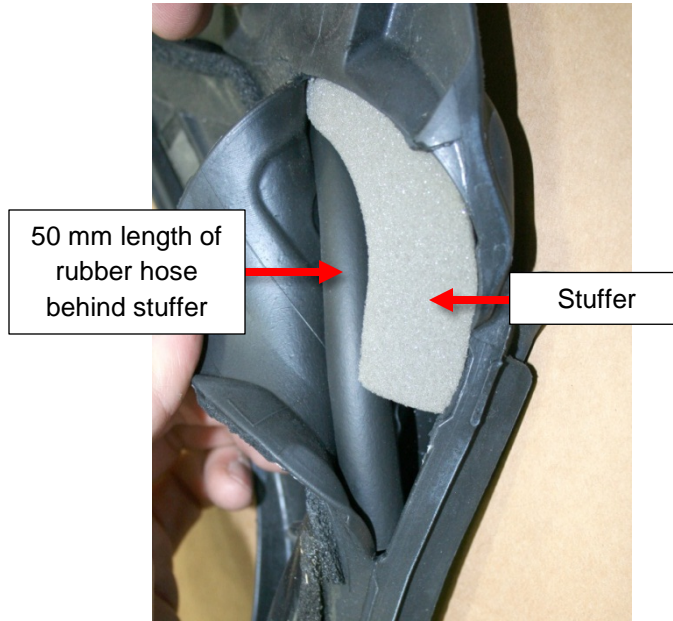


Figure 15

⚠ CAUTION: The seal might tear during installation of the hose. If this happens, use super glue to fix the area shown (Figure 16)



Figure 16

Missing Foam Behind Primary Body Seal

Desired condition: The foam on the inside of the primary body seal extends to the top front corner of the seal (Figure 17).

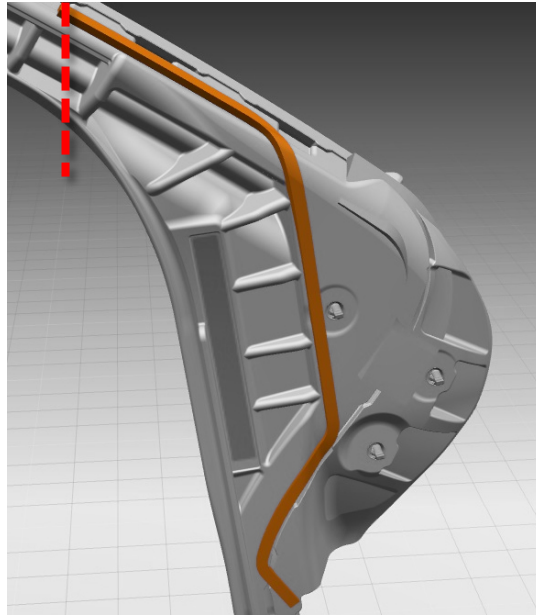


Figure 17

Inspection/Correction: Add a piece of foam tape (1033056-00-A) to the primary body seal as shown (Figure 18).



Figure 18 (Foam tape highlighted)

Gap Between Body and Front of Brightwork

Desired condition: There is no gap between the brightwork and the body underneath the primary body seal.

Inspection/Correction: To test for this condition, cover the outside of the brightwork with tape (Figure 19) and drive the vehicle.



Figure 19

If the wind noise stops, remove the tape and release the primary body seal. Cut 2 22 mm (1 in) pieces of foam tape and secure them:

- At the front of the brightwork (Figure 20)
- Between the front of the brightwork and the body (Figure 21)



Figure 20

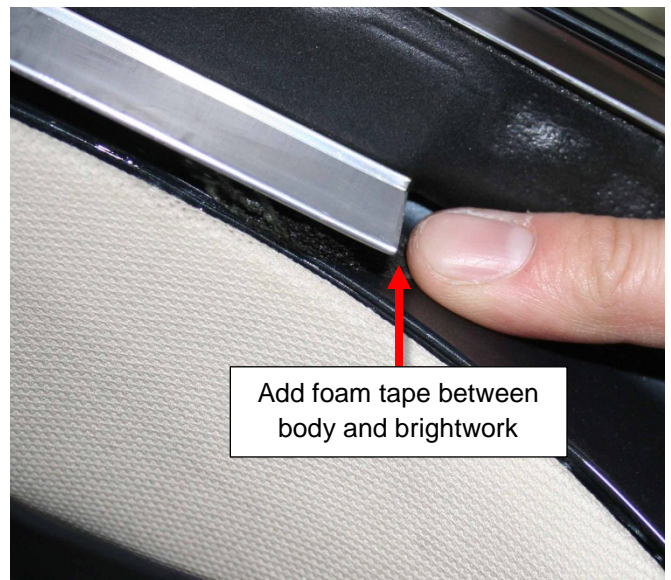


Figure 21

Primary Body Seal Not Secure

Desired condition: The primary body seal is secure to the brightwork.

Inspection/Correction: Lightly pull down on the seal. If it falls out of the brightwork, or feels loose, perform the following steps.

1. Pull the seal out of the brightwork.
2. Locate the lip on the seal (Figure 22) and the seal retainer on the body opening (Figure 23).



Figure 22

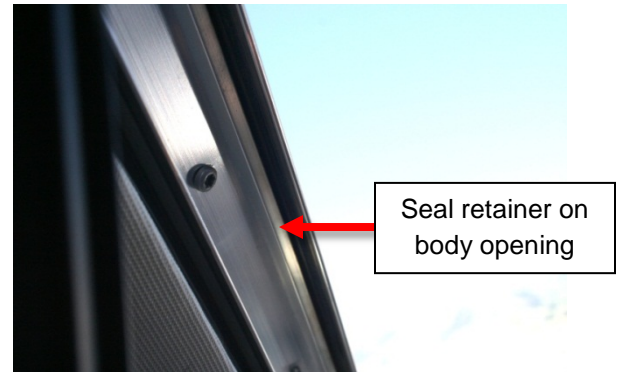


Figure 23

2. Roll the lip on the seal into place behind the seal retainer on the body opening and press the inboard part of the seal upward (Figure 24).



Figure 24

3. Ensure that the seal is smooth and flush with the brightwork; push along the seal to smooth out any lumps (Figure 25).



Figure 25
TESLA

Missing Foam Tape Beneath Front Door Seal

Desired condition: There is a piece of foam beneath the front door seal (Figure 26).

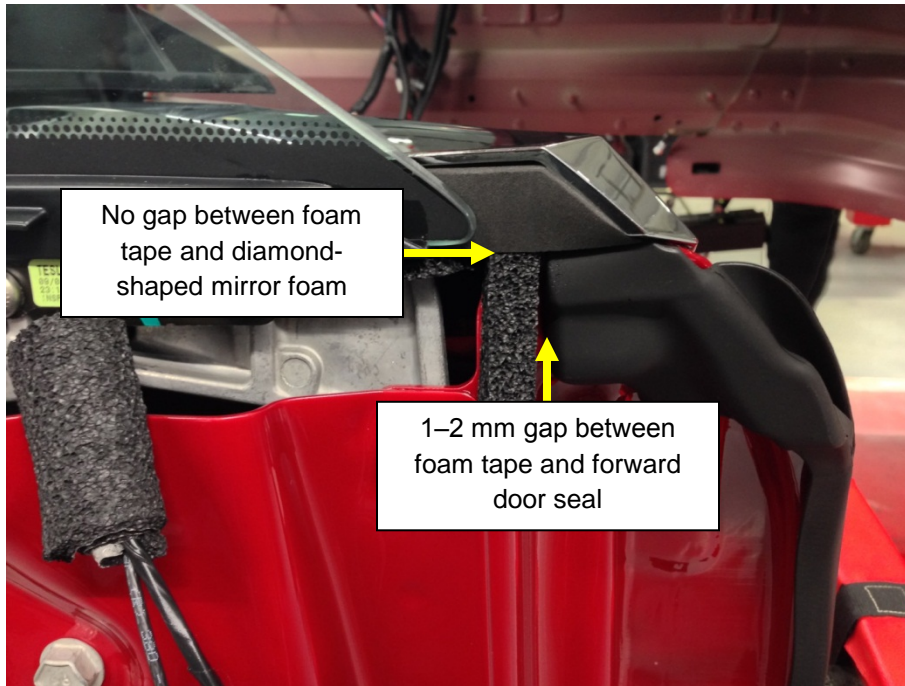


Figure 26

Inspection/Correction:

1. Unclip the forward-most part of the front door seal from the door (Figure 27).



Figure 27

2. If necessary, cut a piece of foam tape (1007167-00-B), 50 mm x 12 mm x 10 mm.
3. Affix the foam tape to the door as shown (Figure 26); ensure that the foam is flush with the diamond-shaped mirror foam in front of the fixed glass, and that there is a 1–2 mm gap between the foam and the forward door seal.

4. Secure the door seal. Ensure that the front tip of the seal fits securely between the diamond-shaped foam and the fixed glass (Figure 28).

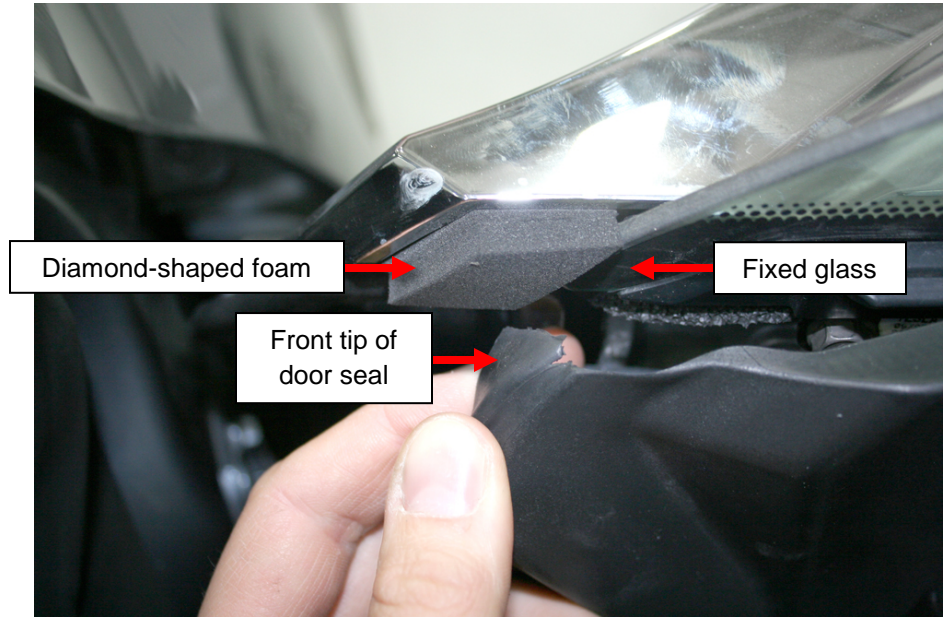


Figure 28

Missing Sealant Between Mirror and Fixed Glass

Desired condition: There is a solid seal between the mirror and the front fixed glass.

Inspection/Correction:

1. If the vehicle is a North American Founder's vehicle, North American Signature vehicle, or has a Production VIN earlier than P01208, replace the side mirror assembly (refer to Service Manual procedure 12090202).

NOTE: These vehicles were built with mirrors that did not have a seal between the mirror and the fixed glass.

2. Drive the vehicle with a piece of tape over the seam between the mirror and the fixed glass (Figure 29).



Figure 29

3. If the previous step stops the wind noise, apply 3M sealant along the seam and use a trim stick or similar tool to push the applied sealant into the seam.
4. Clear away the excess sealant with an IPA wipe. This leaves a nearly invisible layer of sealant inside the seam.

Missing Fixed Glass Seals and Foam Strips Under Fixed Glass

Desired condition: There are fixed glass seals and horizontal foam strips under the fixed glass on both sides of the vehicle (Figures 30 and 31).



Figure 30



Figure 31 (Foam strip highlighted)

Inspection/Correction: Determine whether SB-15-11-002, "Cold Draft or Wind Noise Coming From Fixed Glass" is applicable to the vehicle. If so, perform the bulletin.

If Necessary, Contact Engineering

If none of these methods stop the wind noise, apply tape over all the seals around the around the A and B Pillars (Figure 32). Drive the vehicle to ensure that the wind noise is gone. Remove one piece of tape, then drive the vehicle again. Repeat this process until the wind noise returns.



Figure 32

Open a Toolbox session and explain the steps taken in the experiment. Include Engineers from the Noise, Vibration, and Harshness (NVH) team.

For feedback on the accuracy of this document, email ServiceBulletinFeedback@teslamotors.com.